

METHOD FOR MONITORING OF
THERMAL ABLATION USING PULSE-ECHO ULTRASOUND

ABSTRACT

A method for measuring the temperature rise in anatomical tissue as a result of ultrasound treatment. A first ultrasound signal is obtained prior to treating the anatomical tissue, then a second ultrasound signal is obtained after the tissue is treated. Complex analytic signals are computed from the first and second ultrasound signals, then the depth-dependent delay is computed from the complex analytic signals. An echo strain map is generated from the slope of the depth-dependent delay. The echo strain map is used to estimate the amount of temperature rise from the first ultrasound signal to the second ultrasound signal. An image may then be created showing where temperature rise is occurring in the anatomical tissue.